
Group By

A brief introduction

Group By clause

GROUP BY is a clause used to return a summary of a selected set of rows by the value of one or more columns, expressions and/or aggregate functions.

ex. `SELECT CustLastName, Sum(OrderTotals) FROM Orders
Group By CustLastName`

***Notice you didn't need to add the Sum function to the Group By clause. This will be revisited a in subsequent slide.*

This is an abbreviated explanation but it is illustrative of the point that the highlighted portion would need to show up in the Group By clause but the aggregate function, here the SUM(), would not. Sometimes you will have several columns and it may seem tedious but it is necessary.

How to use Group By

Aggregate Functions do not need to be listed in the GROUP BY clause in order to appear in the final result but all other columns listed in the select statement do.

Ex. SELECT **EntStageName.** SUM(ContractPrice)
FROM Entertainers

Run the example
query using Sales
Order db.

Can you fix it?

What to watch out for

If it appears in the SELECT clause it should appear in the GROUP BY clause, unless it is an aggregate function.

ex. SELECT Customers.CustCity, Customers.CustLastName

FROM Customers

WHERE Customers.CustLastName='Hallmark'

GROUP BY Customers.CustCity

The GROUP BY clause will successfully be called on columns that *are* in your database and aggregate functions.

What to watch out for

You cannot use the Group By clause on any created or alias column name. The following would return an error:

```
ex. SELECT CustFirstName || ', ' || CustLastName AS  
CustName, SUM(ContractPrice)
```

```
FROM Customers
```

```
GROUP BY CustName
```

Run each query together or separately and figure out how many rows are returned for each.

What is similar about the last two SELECT statements?

Try It- 1

```
SELECT Customers.CustCity  
FROM Customers
```

```
SELECT DISTINCT Customers.CustCity  
FROM Customers
```

```
SELECT Customers.CustCity  
FROM Customers  
GROUP BY Customers.CustCity
```

No need to run this
query just tell me
what is wrong with it.

Try It- 2

```
SELECT Customers.CustomerID, Customers.CustomerFirstName,  
Customers.CustomerLastName, SUM(Engagements.ContractPrice) AS  
TotalPrice  
FROM Customers  
INNER JOIN Engagements  
ON Customers.CustomerID = Engagements.CustomerID  
GROUP BY Customers.CustomerID
```

Again no need to run
this query just tell me
what is wrong with it.

Try It- 3

```
SELECT Customers.CustomerID, Customers.CustomerFirstName||','||  
Customers.CustomerLastName AS CustFullName,  
SUM(Engagements.ContractPrice) AS TotalPrice  
FROM Customers  
INNER JOIN Engagements  
ON Customers.CustomerID = Engagements.CustomerID  
GROUP BY Customers.CustomerID, Customers.CustFullName
```

Try It- 4 School Scheduling db

Display by category the category name and the count of classes offered.

Try It- 5 Sales Order db

Display for each product the product name and the total sales.
